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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,562	10/07/2004	Klaus Kneller	12604/10	4036
26646	7590	10/12/2005		
KENYON & KENYON ONE BROADWAY NEW YORK, NY 10004			EXAMINER MCCLLOUD, RENATA D	
			ART UNIT 2837	PAPER NUMBER
DATE MAILED: 10/12/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/510,562	KNELLER, KLAUS	
	Examiner	Art Unit	
	Renata McCloud	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 28-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 56 is/are allowed.
- 6) ☒ Claim(s) 28-38 and 40-55 is/are rejected.
- 7) ☒ Claim(s) 39 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/07/2004</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show "PVM" as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

2. The abstract of the disclosure is objected to because (a) it contains less than 50 words (b) the reference characters need to be removed, and (c) it is not one single paragraph. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent Claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The disclosure is objected to because of the following informalities: The specification refers to cancelled Claims.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more Claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 34, 35, 38, 40, 53-55 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly Claim the subject matter which applicant regards as the invention.

Claims 34,35: The limitation "wherein one of" is indefinite. It is unclear what is being Claimed.

Claim 38: it is unclear how the capacitance of the buffer module capacitor is greater than the sum of all the capacitors to which the intermediate voltage is applied, when the buffer module capacitor is included amongst the capacitors in which the intermediate voltage is supplied. As recited in claim 28, the buffer module stores energy, therefore the intermediate voltage is applied to the capacitor.

Claim 40: The last two lines of the Claim are indefinite. The limitation "at least one of" makes the Claim unclear. It is unclear what is being Claimed.

Claims 53-55: Referring to claim 53, the limitation "feeding back energy by the buffer module to drive modules powered by the intermediate circuit voltage" is indefinite. It is unclear if (a) energy is fed back by the buffer in order to drive any module that is powered by the voltage or (b) energy is fed back by the buffer to the first and second drive modules.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 28-37, 40, 43-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Al-Khayat et al (WO0156133).

**Claims 28, 48:** a supply module (BO) to provide an intermediate voltage; a driver (INV) powered by the intermediate voltage, the driver including an inverter (Tu, Ta, Tv, Tn) to power a motor; a buffer to store energy (Cb), and a bus system (lines connecting the supply module (BO), the driver (INV), and the buffer (Cb)).

**Claims 29, 49:** the motor includes one of a synchronous and an asynchronous motor (an ac motor is asynchronous).

**Claim 30:** the buffer (Cb) is supplied with energy for periods of time and releases the energy to the driver (INV).

**Claim 31:** the buffer (Cb) is supplied with energy during regenerative operation of the driver and releases the energy to the driver (pg. 21:24-30).

**Claims 32 and 33:** the supply module includes a rectifier (CON).

**Claims 34, 35:** the supply module includes a feedback unit (pg. 19:14-29)

**Claim 36:** the supply module includes a circuit breaker (Tb).

**Claim 37:** the circuit breaker (Tb) is connected to an intermediate voltage measuring device (Vsa).

**Claim 40:** the buffer is connected to an output of the supply module, and includes a capacitor (Cb)

**Claim 43:** the buffer (Cb) and supply module (BO) are in a single housing.

**Claim 44:** the buffer/supply module includes a circuit breaker (Tb)

**Claim 45:** the driver circuit (CC) of the circuit breaker (Tb) is connected to an intermediate voltage measuring device (VSa).

**Claim 46:** the driver circuit (CC) of the circuit breaker (Tb) is connected to an intermediate current measuring device (CSB)

**Claim 47:** the buffer (Cb) includes a circuit breaker (Tb) and drive circuit (CC) connected to a voltage measuring circuit (VSa) the circuit breaker (Tb) configured to influence supply to a braking resistor (BC).

**Claim 50:** the buffer (Cb), driver (INV), and supply module (BO) are connected through a bus (lines connecting them).

**Claim 51:** another module connected to the bus system (any other module in Fig. 1).

**Claim 52:** the buffer (Cb), driver (INV), and supply modules (BO) are in the same interface (Fig. 1)

8. Claims 28-30, 32-38, 40-42,44-52 rejected under 35 U.S.C. 102(b) as being anticipated by Takagi et al (US 6327273).

**Claims 28, 48:** a supply module to provide an intermediate voltage (Fig. 1:2); a driver (3) powered by the intermediate voltage, the driver including an inverter (3) to power a motor; a buffer to store energy (5), and a bus system (lines connecting the supply module (2), the driver (3), and the buffer (5)).

**Claims 29,49:** the motor includes one of a synchronous and an asynchronous motor (an ac motor is asynchronous).

**Claim 30:** the buffer (5) is supplied with energy for periods of time and releases the energy to the driver (3).

**Claims 32, 33:** the supply module includes a rectifier (21-24).

**Claims 34, 35:** the supply module includes a feedback unit (A)

**Claim 36:** the supply module includes a circuit breaker (27).

**Claim 37:** the circuit breaker (27) is connected to an intermediate voltage measuring device (50).

**Claim 38:** the buffer (5) includes a capacitor (5) having a capacitance greater than a sum of capacitance of all capacitors to which the intermediate voltage is directly applied (since there are no other capacitors the sum is zero. 5 is the only capacitor and so its capacitance is greater than zero).

**Claim 40:** the buffer is connected to an output of the supply module, and includes a capacitor (5)

**Claim 41:** the buffer includes an electrolytic capacitor (5).

**Claim 42:** the buffer (5) and supply module (2) are in separate housings.

**Claim 44:** the buffer/supply module includes a circuit breaker (27)

**Claim 45:** the driver circuit (205) of the circuit breaker (27) is connected to an intermediate voltage measuring device (50).

**Claim 46:** the driver circuit (205) of the circuit breaker (27) is connected to an intermediate current measuring device (28)



**Claim 47:** the buffer (5) includes a circuit breaker (27) and drive circuit (205) connected to a voltage measuring circuit (50) the circuit breaker (27) configured to influence supply to a braking resistor (111).

**Claim 50:** the buffer (5), driver (3), and supply module (2) are connected through a bus.

**Claim 51:** another module connected to the bus system (any other module in Fig. 1).

**Claim 52:** the buffer (5), driver (3), and supply modules (2) are in the same interface (Fig. 1)

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Al-Khayat et al.

**Claim 42:** Al-Khayat et al teach the Claimed invention except for the buffer (Cb) and supply module (BO) are in separate housings. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use separate housing since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177,179.

Also a method of forming the device is not germane to the issue of patentability of the device itself. Therefore the limitation "manufactured separately" has not been given patentable weight

11. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi et al (US 6367273).

**Claim 43:** Takagi et al teach the Claimed invention except for the buffer and the supply module being integrated. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the buffer and supply modules integrated since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. Howard v. Detroit Works, 150 U.S. 164 (1893).

#### ***Allowable Subject Matter***

12. Claim 56 is allowed. Claim 39 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 53 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action. Claims 54,55 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The

following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach or make obvious a rectifier configured to generate an intermediate circuit voltage; an inverter configured to be powered by the intermediate circuit voltage; a first capacitor not directly connected to the intermediate circuit voltage configured to be energized by an electronic circuit breaker in a controlled manner as a function of the intermediate circuit voltage, the first capacitor configured to release energy to an intermediate circuit; and a second capacitor directly connected to the intermediate circuit voltage, a capacitance of the first capacitor and a capacitance of the second capacitor configured so that during motive operation at nominal load, with the capacitor directly connected to the intermediate circuit, an ac voltage component of the intermediate circuit voltage is less than half an ac voltage component with the first capacitor removed.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

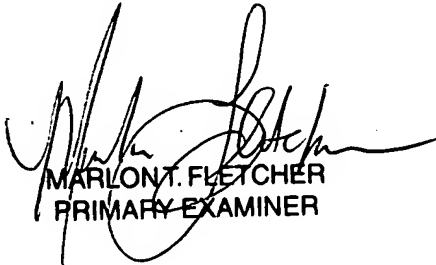
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 8 am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2800 ext. 4. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Renata McCloud  
Examiner  
Art Unit 2837

RDM



MARLON T. FLETCHER  
PRIMARY EXAMINER